



Software for  
Business Intelligence

**BizInt Smart Charts**

# Visualizing Real-World Developments

*Evolution of the COVID-19 Vaccine Case Study and Lessons Learned*

*Diane Webb, BizInt Solutions*

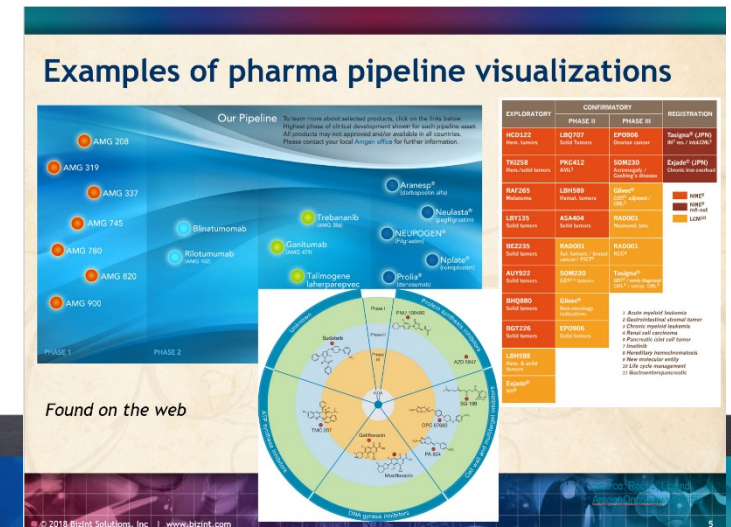
*10 February 2021*

[www.bizint.com](http://www.bizint.com)

**Use the Q&A  
during the  
presentation!**

# Challenges in Visualizing Pharmaceutical Information

- Started thinking about visualizing BizInt data with the introduction of VP-SCE in 2012.
- Gave a series of papers in 2013, 2016, 2018 about the challenges in visualizing drug pipeline and clinical trial information.
- See [bizint.com/slides](http://bizint.com/slides)



# Challenges in Visualizing Pharmaceutical Information: Lessons Learned

- You need a team



- It's all about

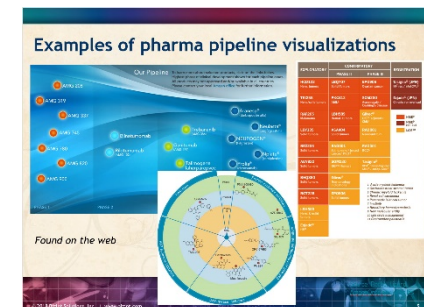


- Choose the right colors

- It's not

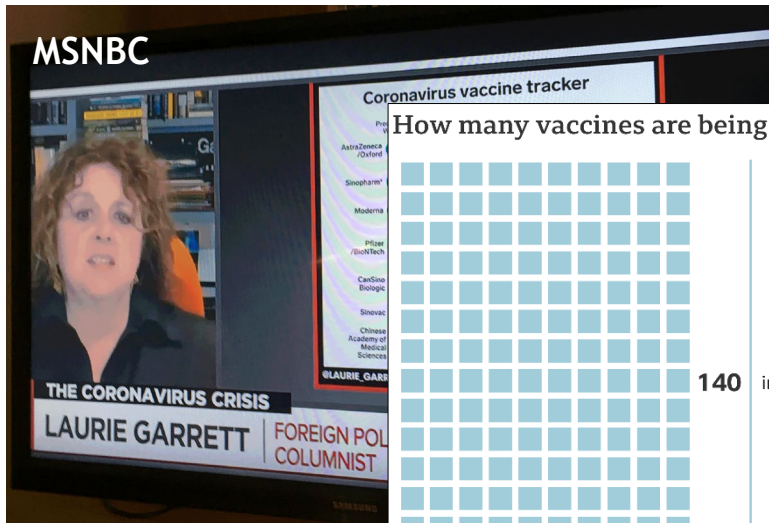


- The best visualization is the one that tells your story

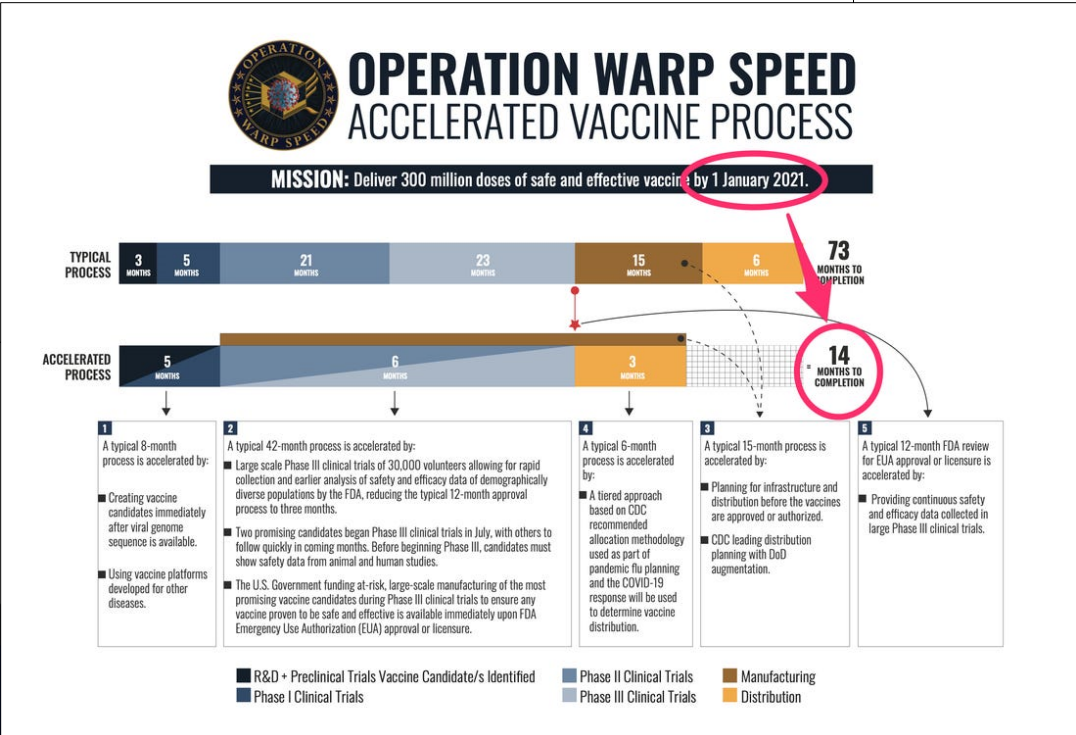
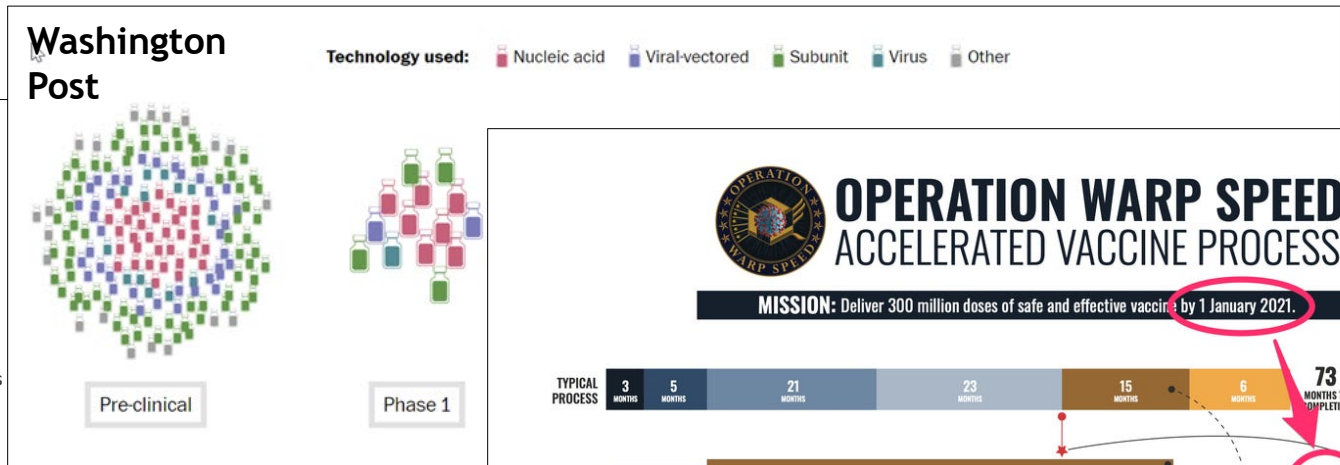
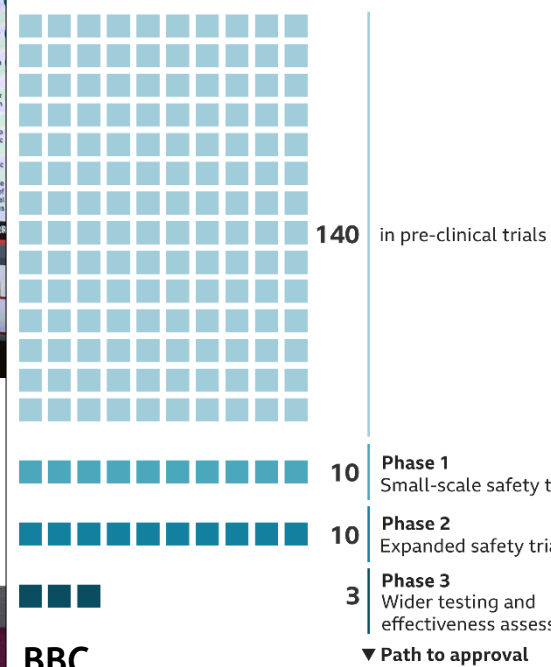


# COVID-19 Vaccine Case Study: Background

- In the summer of 2020, we started seeing news coverage and visualizations of COVID-19 vaccines in development...



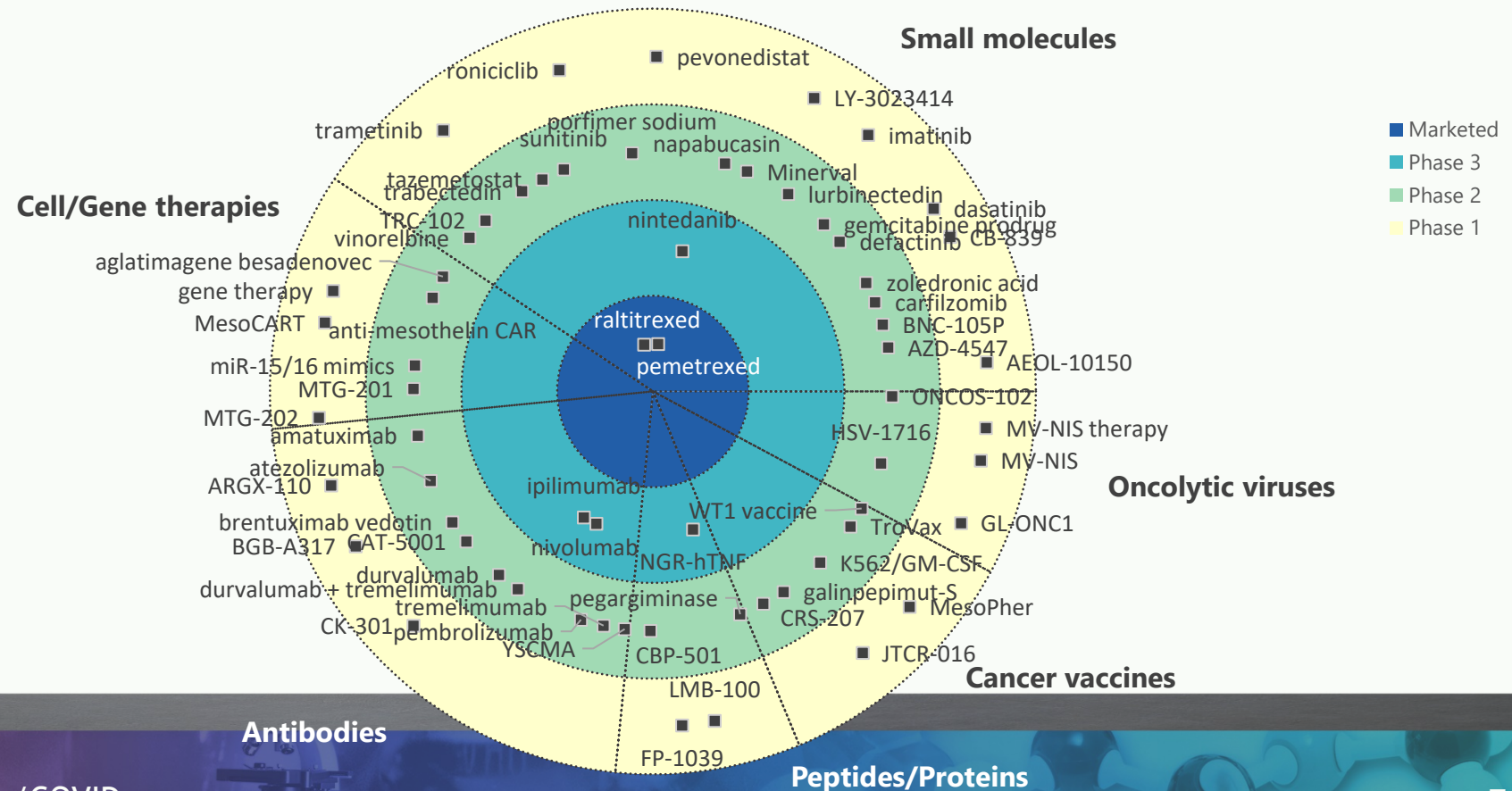
How many vaccines are being tested?



# COVID-19 Vaccine Case Study: Background

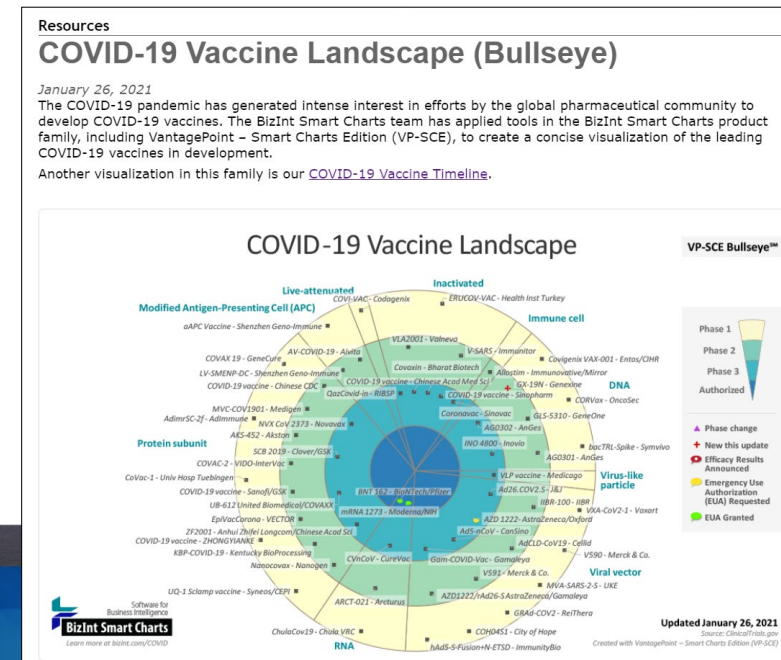
- ...and we decided to try visualizing COVID-19 vaccines using our **bullseye**.

- Can display several dozen items.
- Good way of showing phase progress.
- Slices can show vaccine technology.



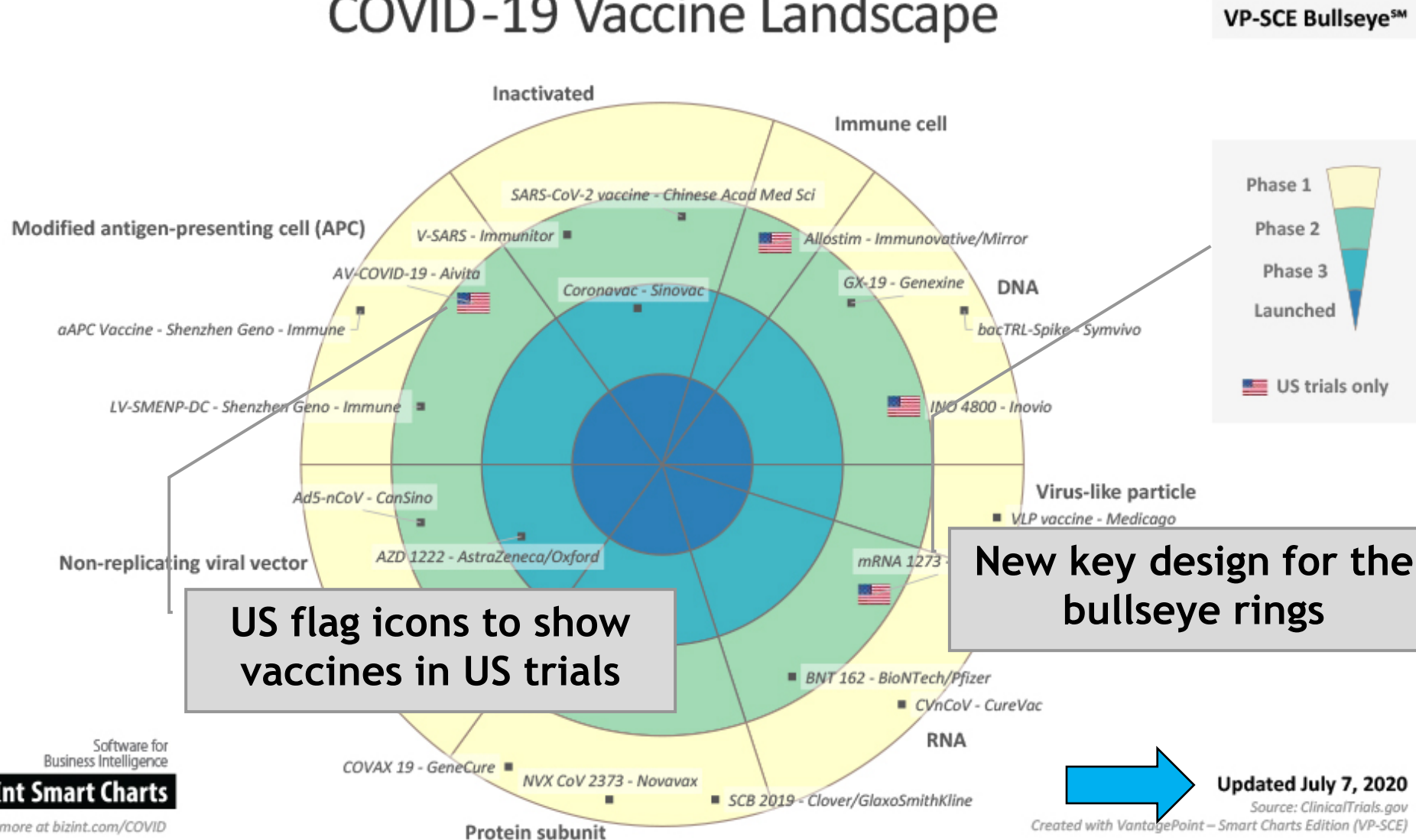
# COVID-19 Vaccine Case Study: Decisions

- **Delivery:** publish an image of the bullseye on our website [bizint.com/covid](http://bizint.com/covid) (not interactive)
- **Data source:** ClinicalTrials.gov (a public source) using the provided search for COVID-19 clinical trials
- **What to plot:** highest trial phase for each vaccine in the CT.gov data.
- **Categories:** vaccines categorized in VP-SCE, from review of publicly available sources.
- **Update:** every 2 weeks, using Update features in BizInt Smart Charts.



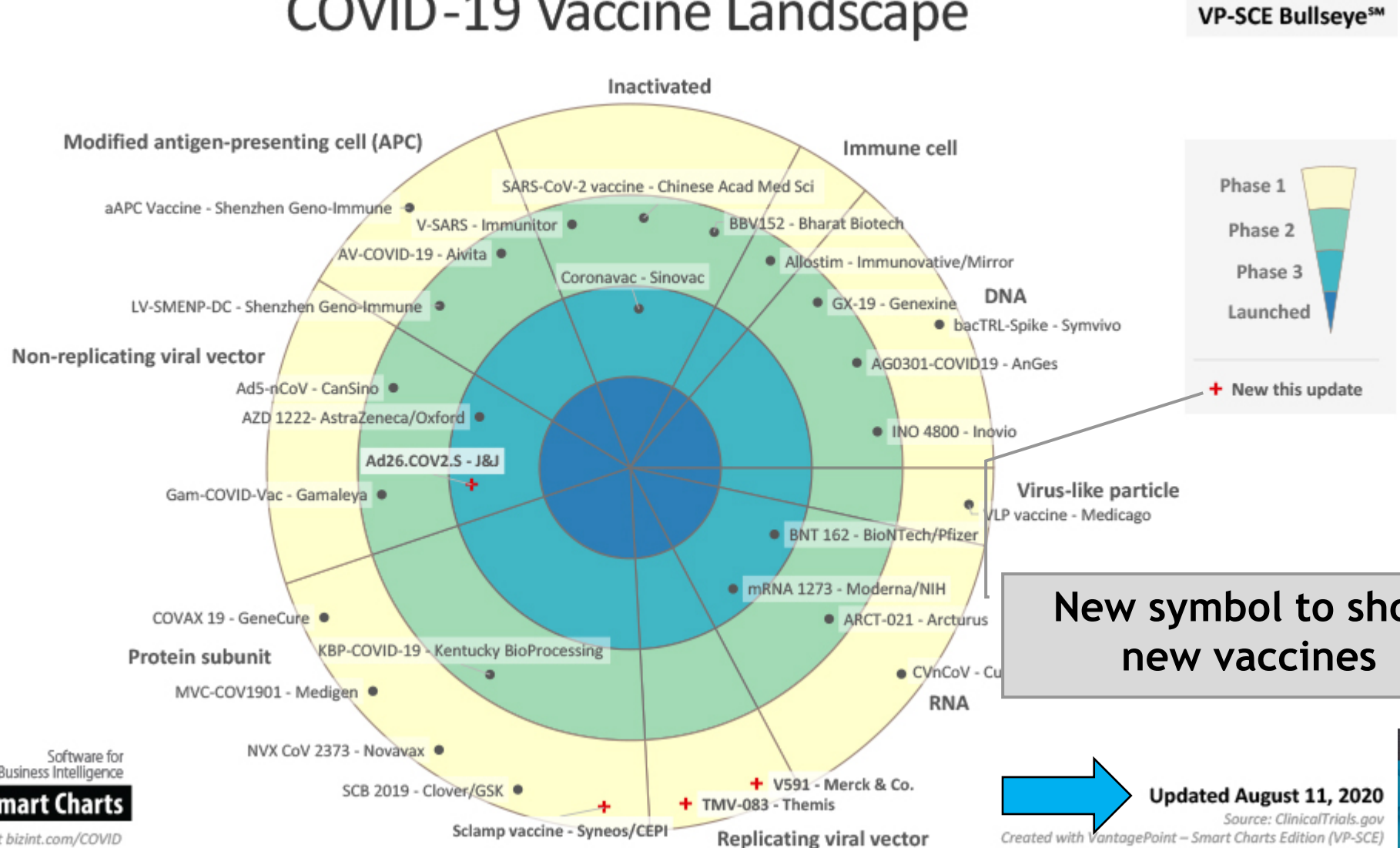
# COVID-19 Vaccine Case Study: 1<sup>st</sup> Bullseye

## COVID-19 Vaccine Landscape



# COVID-19 Vaccine Case Study: Updates

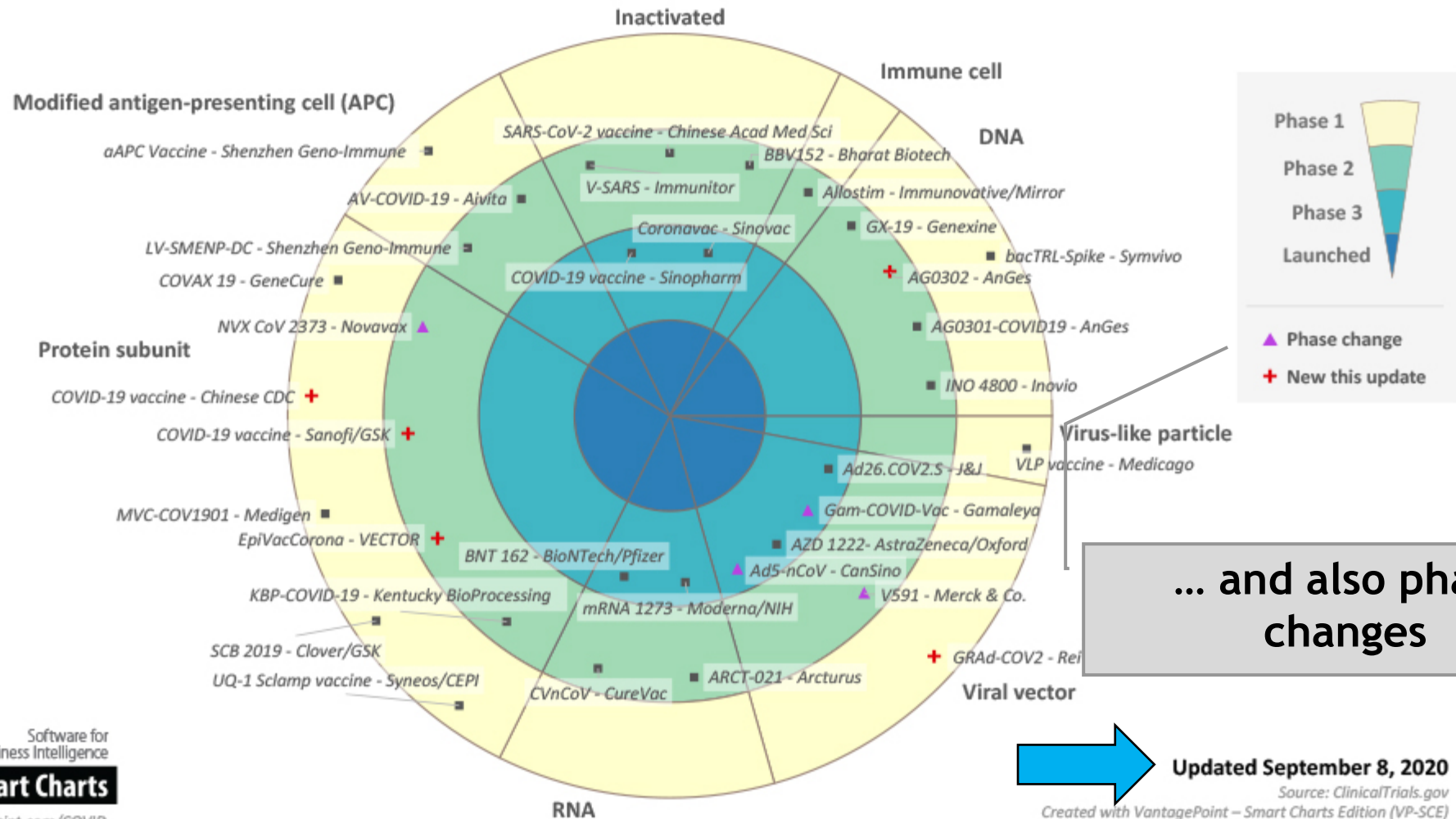
## COVID-19 Vaccine Landscape





# COVID-19 Vaccine Case Study: Updates

## COVID-19 Vaccine Landscape

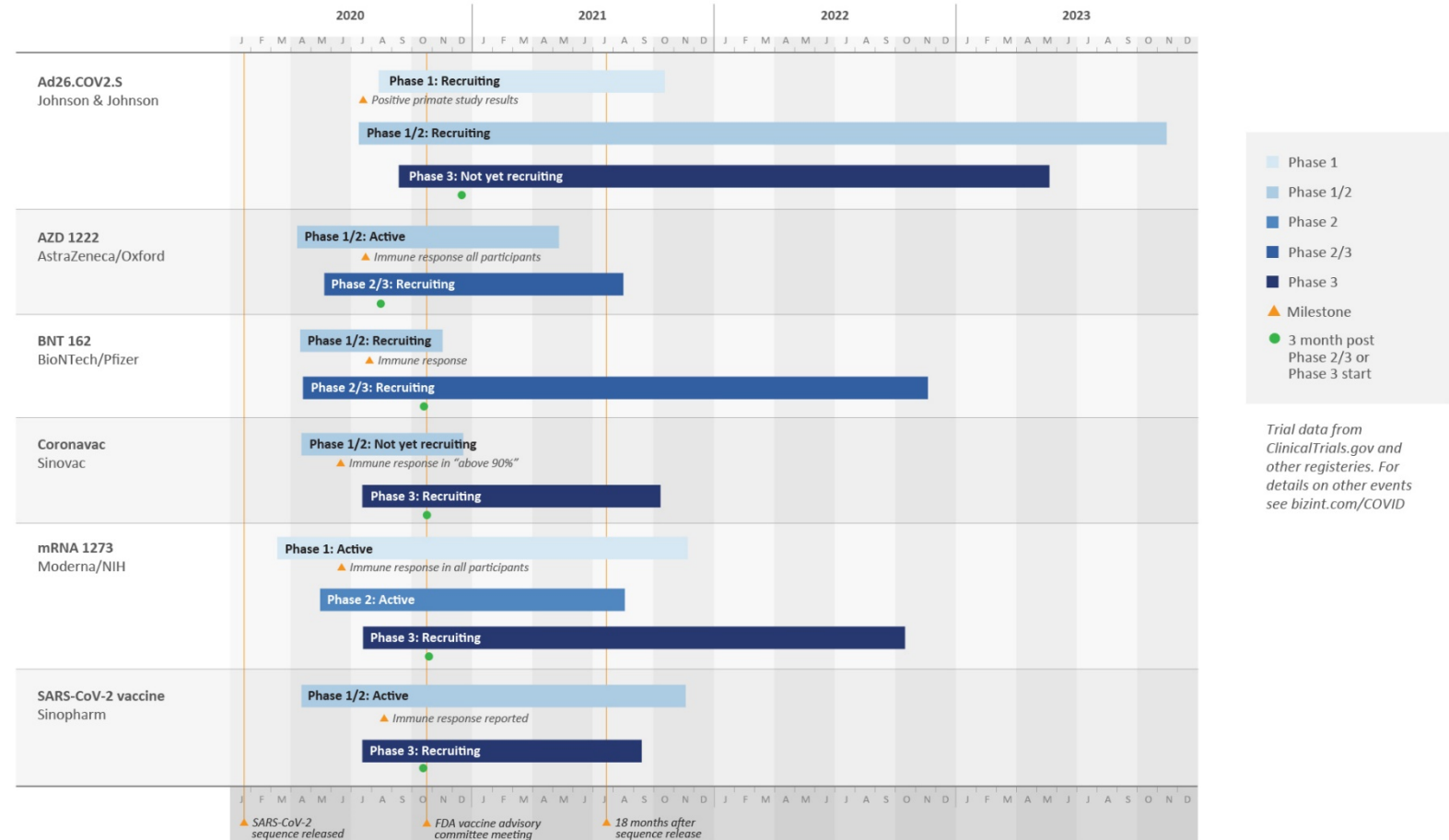


# COVID-19 Vaccine Case Study: Trial timeline

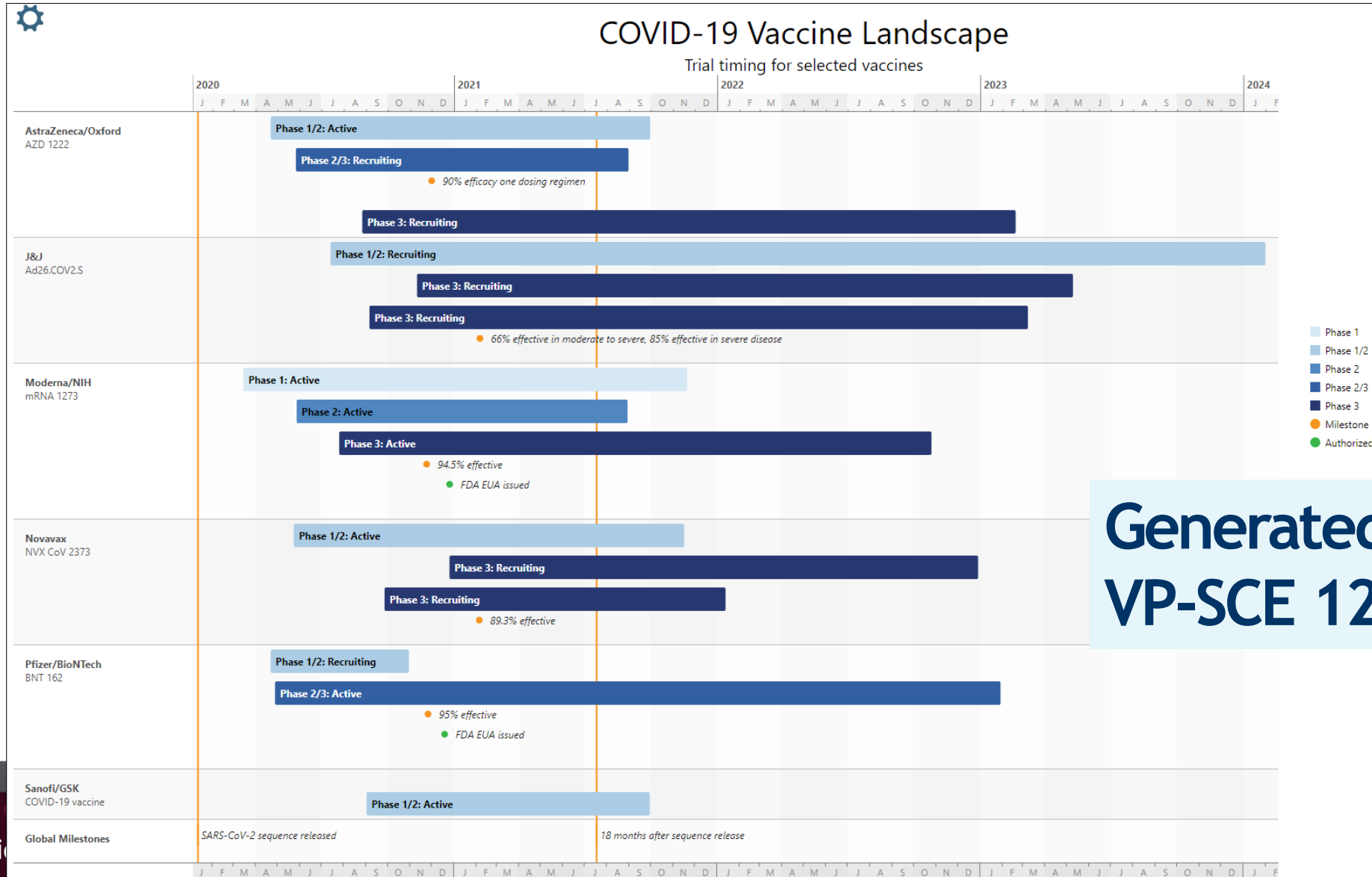
## COVID-19 Vaccine Landscape Trial timing for vaccines in phase 3

VP-SCE Timeline<sup>SM</sup>

- Wanted to show CT.gov trial timing for the Phase 3 candidates.
- Enhanced our standard timeline with PowerPoint.
- Include bar labeling, milestones, etc.



# COVID-19 Vaccine Case Study: Timeline

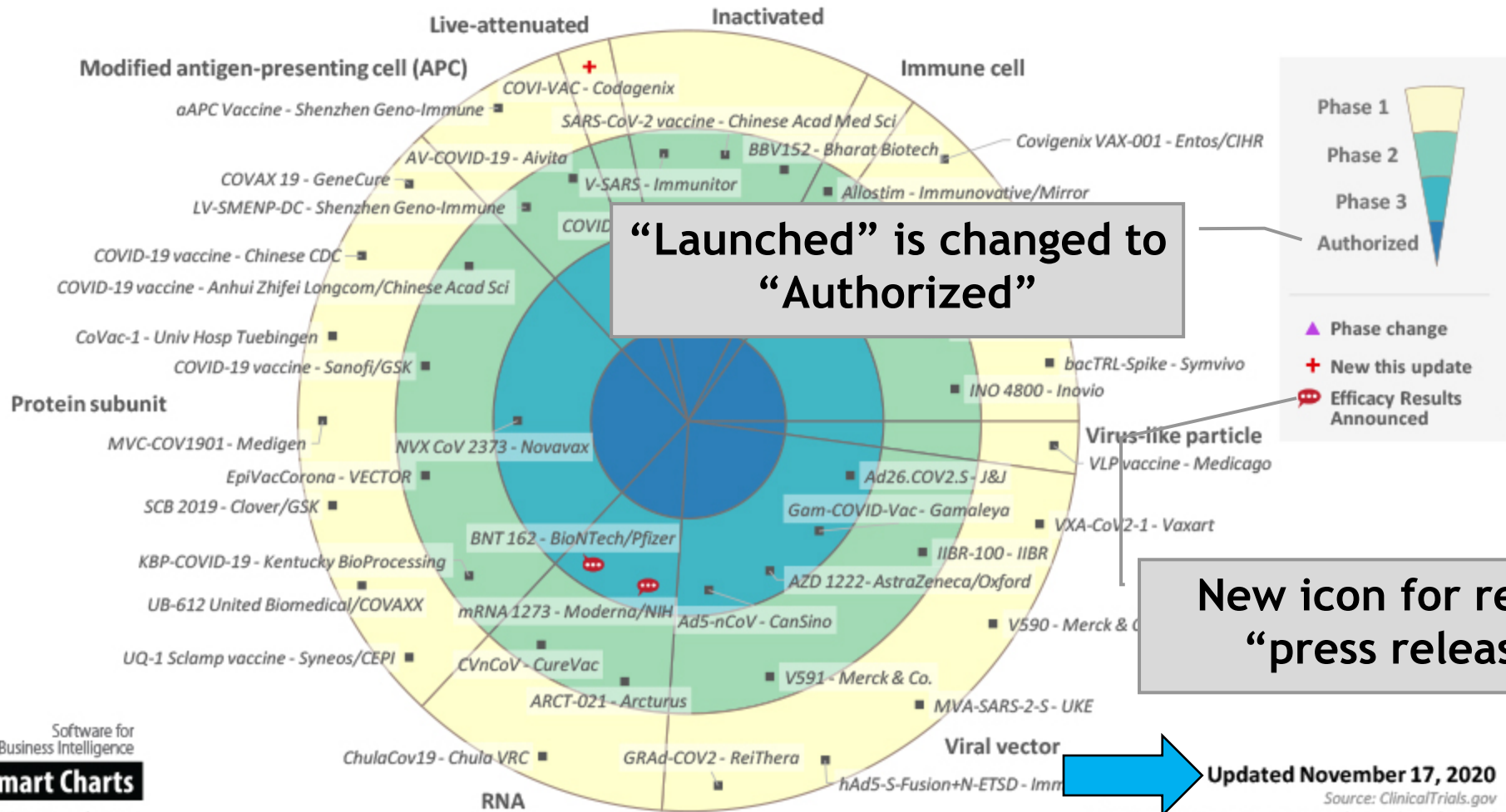


Vaccines chosen by Tony Fauci

Generated with VP-SCE 12!

# COVID-19 Vaccine Case Study: The Real World

## COVID-19 Vaccine Landscape

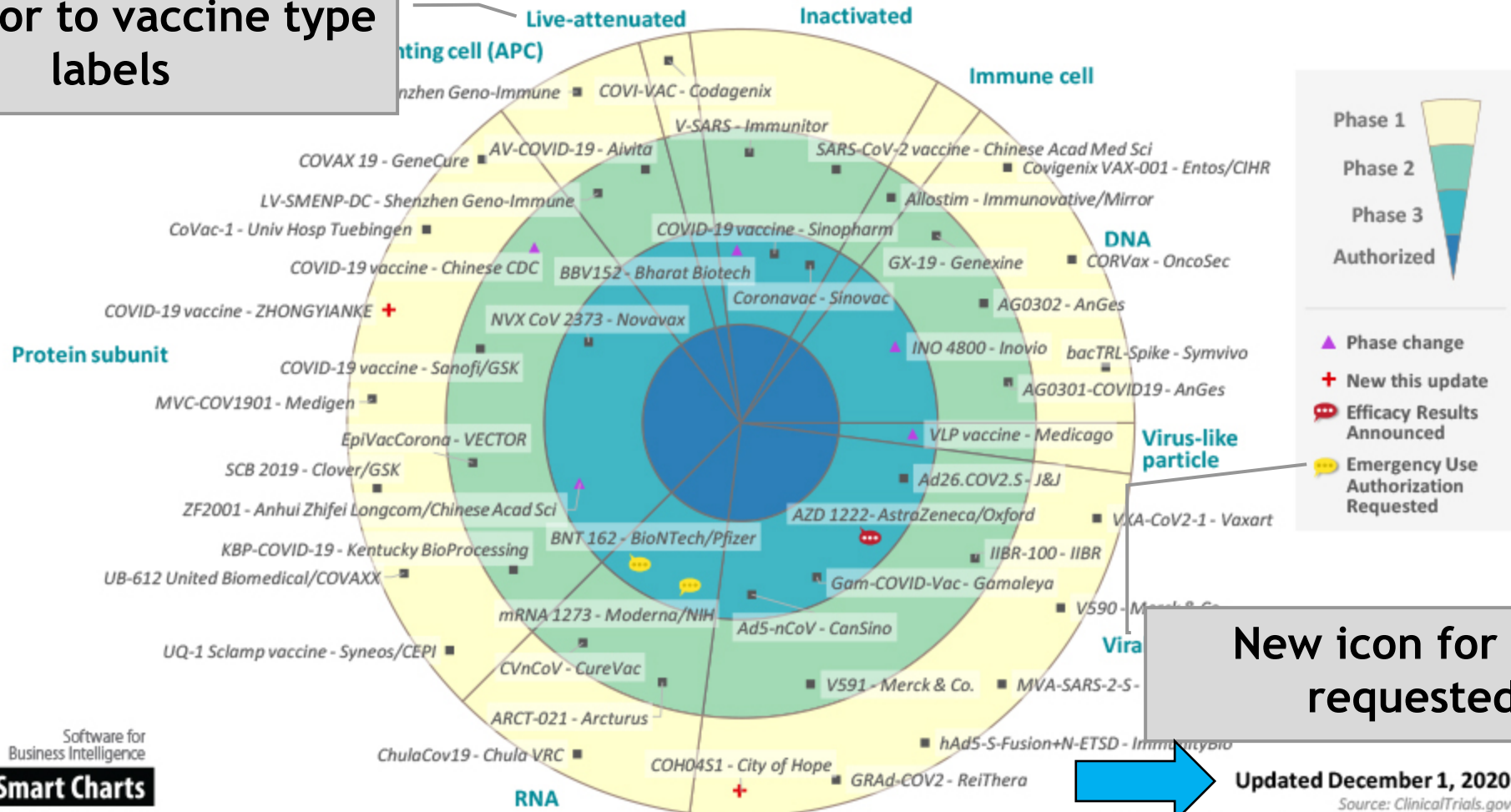


# COVID-19 Vaccine Case Study: The Real World

## COVID-19 Vaccine Landscape

VP-SCE Bullseye<sup>SM</sup>

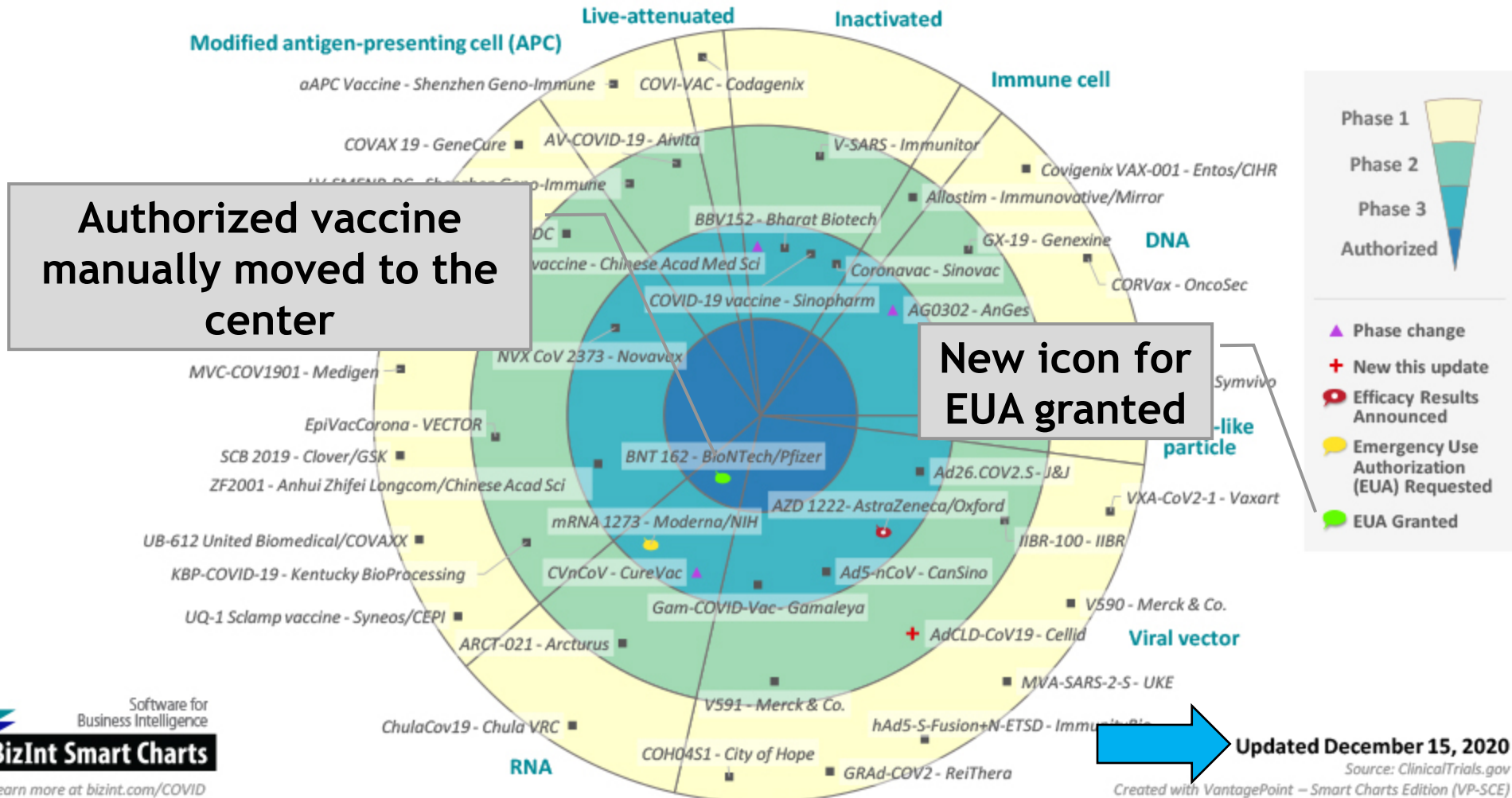
Add color to vaccine type labels



# COVID-19 Vaccine Case Study: The Real World

## COVID-19 Vaccine Landscape

VP-SCE Bullseye<sup>SM</sup>



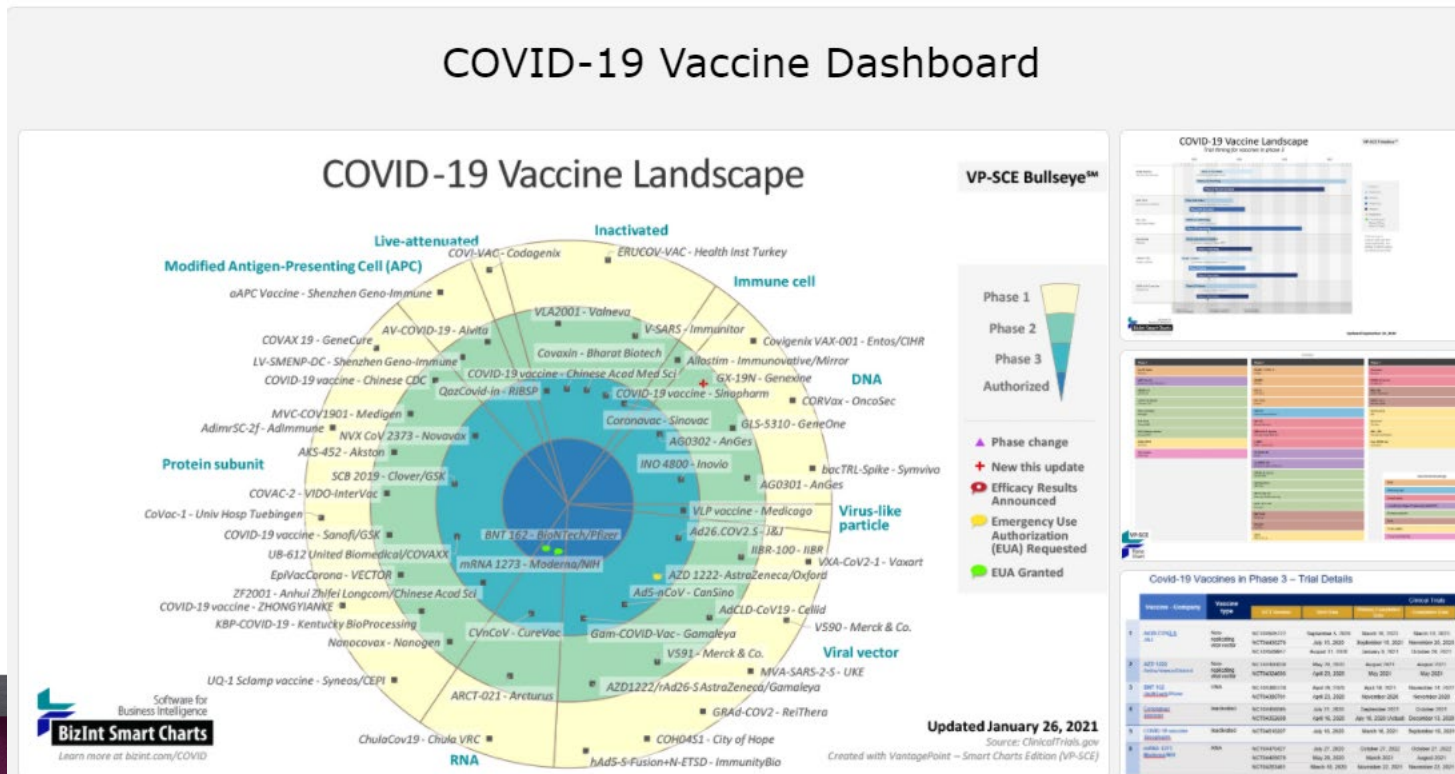
# COVID-19 Vaccine Case Study: Dashboard

## Resources

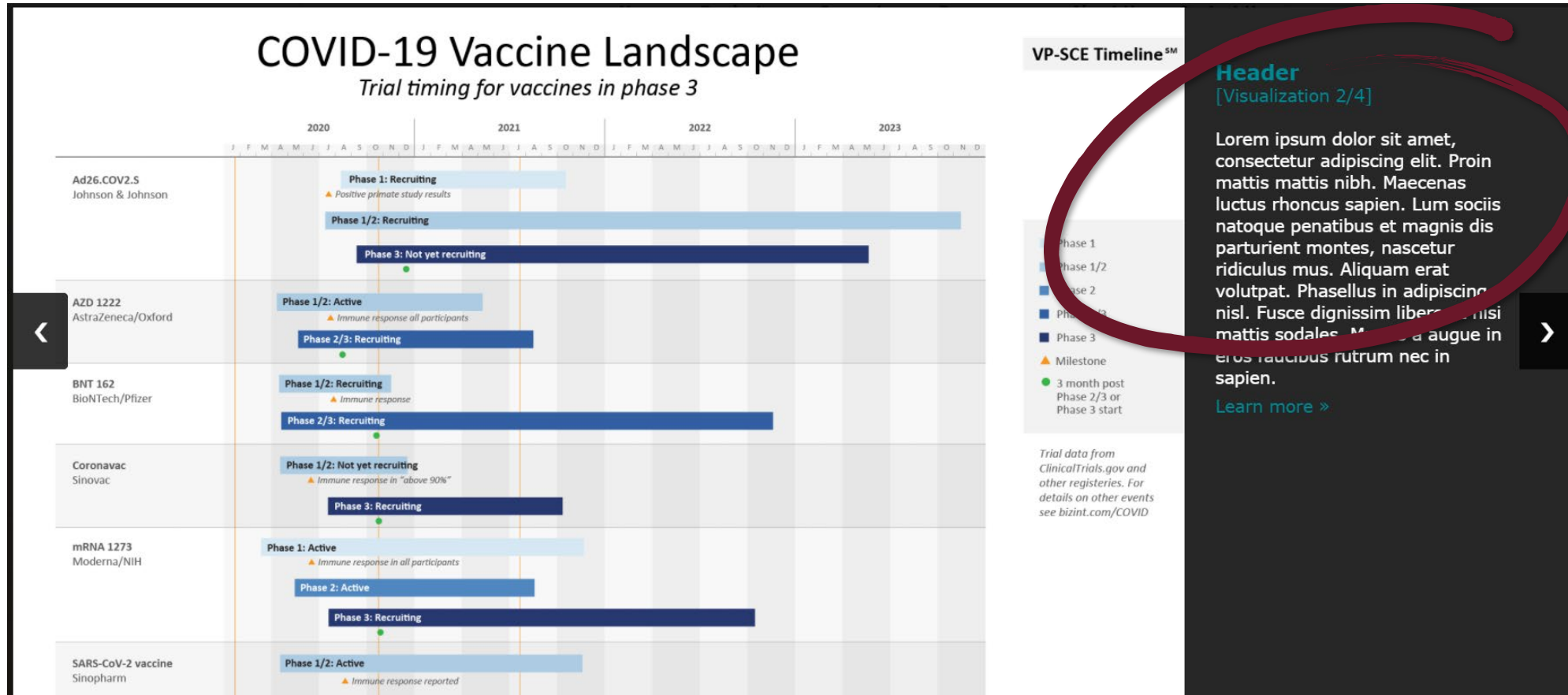
### COVID-19 Vaccine Dashboard

December 29, 2020

The COVID-19 pandemic has generated intense interest in efforts by the global pharmaceutical community to develop COVID-19 vaccines. The BizInt Smart Charts team has applied tools in the BizInt Smart Charts product family, including VantagePoint – Smart Charts Edition (VP-SCE), to create concise visualizations of the leading COVID-19 vaccines in development.



# COVID-19 Vaccine Case Study: Dashboard



### Header

[Visualization 2/4]

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[Learn more »](#)

Vaccine	Company	Vaccine Type	Phase 3 Start	Phase 3 End	Phase 3 Status	Participants
Ad26.COV2.S	Johnson & Johnson	mRNA	Aug 18, 2020	Nov 11, 2021	Phase 3	30,000
AZD 1222	AstraZeneca/Oxford	Protein	Aug 11, 2020	Oct 21, 2021	Phase 3	250
BNT 162	BioNTech/Pfizer	mRNA	Aug 18, 2020	May 10, 2021	Phase 3	12,000
Coronavac	Sinovac	Inactivated	Apr 15, 2020	Nov 14, 2021	Phase 3	24,000
mRNA 1273	Moderna/NIH	mRNA	Apr 11, 2020	Nov 14, 2021	Phase 3	450
SARS-CoV-2 vaccine	Sinopharm	Inactivated	Apr 14, 2020	Jan 11, 2021	Phase 3	8,000



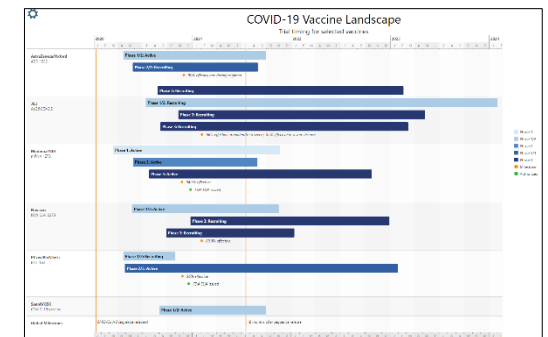
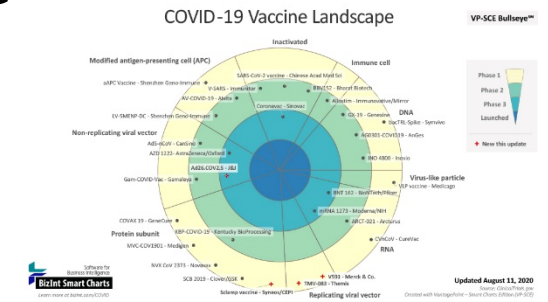
## Lessons Learned - You need a team

- **BizInt team** designed the project and reviewed each version.
- **Public relations consultant** provided outside perspective.
- **Expert analyst** did the search, reviewed data, and implemented VP-SCE techniques to create each bullseye.
- **Graphics consultant** created the design and put finishing touches on each bullseye.
- **Webmaster** published each version.



# Lessons Learned - The Best Visualization is...

- The one that “tells the story” for your topic and data.
- **Bullseye** worked well for showing all the vaccines in trials.
- But the **timeline** is better for showing details of trial timing.
- And a piano chart, tables, maps would be useful too.

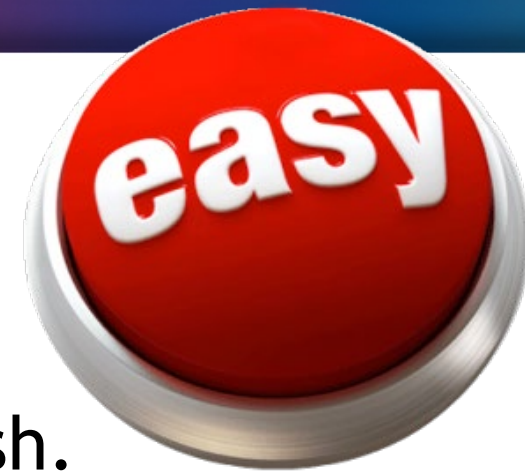


# Lessons Learned - It's all about



- Generating the bullseye in PowerPoint made it easy to add custom icons.
- And to move labels for better readability.
- But it's not easy to automatically generate PowerPoint presentations.
- And interactivity is limited.

## Lessons Learned - It's not “Easy”



- Each update takes about 2 hours, and another 30 min to polish & publish.
- BizInt Smart Charts tools make the drawing of the visualizations easier.
- But data review, categorization and processing is still required.
- *The goal is to create an accurate, useful, and high-quality product!*

# Lessons Learned - Revisit your decisions!

- **Should we be using ClinicalTrials.gov as our data source?**

*Maybe using pipeline data would make more sense?*

- **Should we include all vaccines?**

*We're excluding repurposed vaccines, maybe we should exclude others?*

- **Should we update more frequently?**

*Maybe when a key event happens?*

- **Can we make the process easier and faster?**

*Do all steps have value? Can we automate steps?*



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**Questions?  
Comments?  
Ideas?**



**THE JOURNEY CONTINUES**

